

# **MUNICIPAL FINANCE SEMINAR**

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**January 26, 1995 Prague**

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## **ABSTRACT**

The Municipal Finance Seminar was held on January 24, 1995, in Brno and on January 26 in Prague. These seminars were targeted to local professionals and consulting firms that are active in providing technical assistance to the Czech municipalities on municipal finance, project financing, and related issues. A third seminar was held on January 25 for MOF officials. This report consists of the overheads presented at the seminar and a list of organizations and consulting firms currently providing services to municipalities in the Czech Republic. The Urban Institute and Urban Research organized and presented the seminars under ICMA's Local Government and Housing Privatization Project with USAID (Project No. EUR-0034-C-00-2034-00).

# **THE PROBLEM AND THE POTENTIAL**

## **LOCAL INFRASTRUCTURE--CONSTRAINT ON NATIONAL DEVELOPMENT**

- Seriously deteriorated local infrastructure systems
- Economic inefficiencies
  - 30-50% of water produced, lost to leakage
  - treatment plant capacity much larger than needed or nonexistent
  - energy loss from inefficient heating
- Environmental degradation
  - Air pollution (Chomutov 7 times maximum for SO<sub>2</sub> in November 1993)
  - Water pollution

## **MUNICIPALITIES INHERITED IT, BUT NOT PREPARED TO MANAGE IT**

- Good engineers, but no tradition of financial planning or management

## **BROADER IMPACTS OF SOUND CAPITAL PLANNING PROCESS**

- Forces financially realistic analysis of city's future
- Stimulates economic development (e.g., land management)
- Can stimulate reform--city budget as a whole

**NUMBER AND SIZE OF CZECH MUNICIPALITIES, 1990**

Category/Municipality	No. of Mun.	Population (000)		Gr. Rate %/year 1980-90
		1980	1990	
ABOVE 50,000				
Praha	1	1,183	1,212	0.24
Brno	1	371	388	0.45
Ostrava	1	328	328	-0.01
Plzen	1	171	173	0.14
Olomouc	1	102	106	0.34
Liberec	1	97	102	0.45
Hradec Kralove	1	95	100	0.45
Usti nad Labem	1	88	100	1.27
Ceske Budejovice	1	90	97	0.74
Pardubice	1	92	95	0.32
Havirov	1	90	86	-0.42
Zin	1	84	85	0.07
Klandno	1	71	72	0.07
Most	1	60	71	1.66
Karvina	1	78	68	-1.35
Frydek-Mistek	1	59	65	0.91
Opava	1	59	64	0.69
Karlovy Vary	1	61	56	-0.78
Decin	1	50	55	1.06
Chomutov	1	52	53	0.27
Teplice	1	54	53	-0.15
Jihlava	1	51	52	0.23
Prerov	1	50	51	0.22
Prostejov	1	50	50	0.10
Total	24	3,487	3,582	0.27
20,000 - 50,000	40	1,104	1,177	0.64
BELOW 20,000	6,132	5,701	5,540	-0.29
TOTAL CZECH REPUBLIC	6,196	10,292	10,299	0.01

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**LOCAL GOVERNMENT COMPONENT  
BUDGET OF THE CZECH REPUBLIC**

Current Kcs (billions)

	<b>Actual 1992</b>	<b>Budget 1993</b>	<b>Actual 1993</b>	<b>Budget 1994</b>	<b>Budget 1995</b>
<b>REVENUES</b>					
Income tax	--	17.7	28.2	44.3	49.0
Property tax	--	3.6	3.0	3.6	3.4
Cancelled taxes	9.1	--	4.8	--	--
Subtotal taxes	9.1	21.3	36.0	47.9	52.4
Transfers Mun. Ent.	6.3	4.9	10.2	11.0	12.0
Property rental/sales	--	2.0	7.0	4.8	4.4
Loans	--	--	2.1	--	--
Other	1.8	12.8	7.8	8.1	5.0
Total own revenues	17.2	41.0	63.1	71.8	73.8
State subsidies	58.8	17.0	27.9	25.5	27.3
Hous. constr. subsidies	8.7	--	--	--	--
Total subsidies	67.4	17.0	27.9	25.5	27.3
Total revenues	84.6	58.0	91.0	97.3	101.1
<b>EXPENDITURES</b>					
Capital expenditures	30.2	7.3	31.6	26.5	27.4
Operating/other	46.6	50.7	58.6	70.8	73.7
Total expenditures	76.8	58.0	90.2	97.3	101.1

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## **SURVEY RESULTS - 1/94**

(Surveys by MOF/CMZRB and MOE)

### **STRONG MUNICIPAL INTEREST IN INFRASTRUCTURE IMPROVEMENTS**

- 168 municipalities, requesting 238 costed projects
- Total cost Kc. 25.2 billion, loan value Kc. 22.2 billion

### **MOST PROJECTS: ENVIRONMENTAL IMPROVEMENTS**

72% in 3 categories

- 121 (51%) waste/wastewater systems
- 39 (17%) energy/heat conversion or improvement
- 9 (4%) solid waste disposal

### **REQUESTS FOR TECHNICAL ASSISTANCE FOCUS ON FINANCING**

(% of total requests)

- 18% - financial planning
- 16% - revenue strategies
- 16% - negotiating with banks
- 13% - capital budgeting
- 8% - infrastructure technical analysis
- 6% - environmental impact assessment



## **MUNICIPAL INFRASTRUCTURE: THE NEW APPROACH**

### **MAJOR CHANGE IN APPROACH TO MUNICIPAL INFRASTRUCTURE - PAST DECADE**

- Worldwide - U.S. and Western Europe as well as former planned economies

### **CAUSES:**

- Capital scarcity, reductions in central government subsidies
- Competition among cities
- Increasing evidence of enormous financial waste and environmental damage of old approach

### **THEMES OF NEW APPROACH:**

- Municipal self-reliance
- Leadership of Mayors, with public participation
- Efficiency - doing more with less
- Giving consumers what they are willing and able to pay for
- Emphasis on environmentally sensitive development

## **FIVE ELEMENTS OF THE NEW APPROACH**

**A. Prepare multi-year Capital Improvement Programs and Budgets -** separate from municipal operating budgets - the basis for the city's development strategy.

**B. Develop program strategies (with public participation)** as basis for Capital Improvement Programs.

**C. Conduct analyses to achieve five key objectives - design programs and projects:**

1. that consumers really need and are willing and able to pay for. (MARKET/NEEDS ANALYSIS)
2. that are technically efficient. (TECHNICAL ANALYSIS)
3. that have more beneficial economic, environmental, and social impacts. (ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACT ANALYSIS)
4. that the municipality can realistically finance and that earn an acceptable rate of return. (FINANCIAL ANALYSIS)
5. that can be implemented and operated lawfully and effectively. (INSTITUTIONAL ANALYSIS)

**D. Set priorities to fit within real financing possibilities.**

**E. Rely more on credit financing.**

## COMPARISON OF APPROACHES

Feature	Old Approach	New Approach
Decision makers	Government engineers	Mayors, community groups, the people
Incentives	Increase capital expenditures	Highest economic and environmental benefit per unit cost
Criteria	Planning standards	Consumer preferences and demand
Time frame	Long term	Incremental in long term framework
Emphasis	Building new projects	Conservation, good maintenance/repair
Method of Financing	Government grants	Private credit
Results for people	Dependency	Involvement, self-sufficiency

## **A. MULTI-YEAR CAPITAL IMPROVEMENT PROGRAMS AND BUDGETS**

### **Need for a separate capital improvement program (CIP)**

- Operating expenditures (like staff salaries) - no need to make a commitment beyond one year
- Capital expenditures (like roads, water systems) imply long term commitment - can't reasonably evaluate without looking at implications several years in future

### **Usual approach: a five-year "rolling" program**

- Develop full program, all capital outlays, five years
- Adopt first year of program as official budget
- Next year: re-examine/revise remaining years, add new fifth year, adopt new first year as official budget

### **Include all sectors that affect municipal residents**

- All sectors interrelated (extensions of road system must be coordinated with extensions of water system)
- Can't assess true priorities unless all sectors considered

### **CIP can be the key to the Mayor's development strategy**

- Unlike old master plans, CIP implies commitment to action
- CIP indirectly affects all aspects of city development
- Using the CIP to build a coalition for support enlists the advantages of public participation

## **B. PROGRAM STRATEGIES AS A BASIS FOR THE CIP**

**Traditional approach: sectoral agencies (e.g., water and heat enterprises, road departments) make initial project choices without central guidance**

1. Agencies identify projects
2. Agencies develop project designs
3. Mayor/Council then select priorities

*Problem - hard for Mayor/Council to understand implications and make major changes when plans so far advanced.*

**Alternative approach: work with sectoral agencies to design program strategies - give guidance on project selection based on strategy**

Strategy requires analysis of whole system (e.g. water/wastewater) - compare current system capacity with long term demand/needs and assess alternative approaches to development considering cost/benefit tradeoffs.

1. Mayor/Council develop long term strategy
2. Mayor/Council give guidance to sectoral agencies on project identification based on strategy
3. Agencies then select and design projects based on guidance
4. Mayor/Council select priorities across sectors based on strategy

*Normally too time consuming to do this for all sectors in one year - can, for example, develop strategy for water supply in one year, for roads the next year, with serious updates of strategies every five years*

### **Benefits of public participation - strategies and CIP planning**

- Means involving citizens (e.g., community representatives, business leaders) in early planning as well as public hearings after drafts prepared
- A way to find out what people really care about - likely to be more willing to pay if participate in decision making
- Building coalitions to support Mayor's program - evidence from elsewhere: can enhance Mayor's popularity.

## **C. CONDUCT ANALYSES TO ACHIEVE FIVE KEY OBJECTIVES**

### **The five analyses are interrelated:**

1. **Market/needs analysis** to define programs consumers really need and are willing and able to pay for.
2. **Technical analysis** to define programs that are technically efficient.
3. **Economic, environmental, and social impact analysis** to define programs that have more beneficial economic, environmental, and social impacts.
4. **Financial analysis** to define programs that the municipality can realistically finance and that earn an acceptable rate of return.
5. **Institutional analysis** to define programs that can be implemented and operated lawfully and effectively.

**Analyze interactively (going from general to detailed) rather than strictly in sequence**

### **Touch on all five in all stages of planning process:**

- Strategy formulation: rough estimates
- Project identification: interviews, common sense
- Project preparation: formal, more detailed analysis

# **1. PROGRAMS CONSUMERS ARE WILLING AND ABLE TO PAY FOR (MARKET ANALYSIS)**

**Purpose: "realistic" estimates of future demand versus current supply**

## **1. Demand analysis - to estimate future quantities demanded at specified *prices***

- Methods can vary, including: simple projections based on past trends, interviews and focus groups, formal surveys
- Must consider price effects for revenue generating projects: for example, water consumption will go down as prices go up

## **2. Supply analysis - to assess current production capacity**

- Inventory facilities, obtain data on output levels
- Modify based on improvements in process

## **3. Specify the future gap between demand and supply**

- Specify how much, where, and when
- Realism here avoids the waste due to "overdesign" typical of the old approach

## **2. PROGRAMS THAT ARE TECHNICALLY EFFICIENT (TECHNICAL ANALYSIS)**

**Purpose: analyze technical alternatives to find the one that most efficiently addresses the demand/supply gap**

- Consider variations in technology, size(s), location(s), timing/staging

**Method of comparison: *life cycle costing***

- Consider all implied costs (operating and maintenance costs as well as capital) over the full life of the investment
- Discount cost streams to reflect time value of money

**This approach has led to dramatic cost reductions**

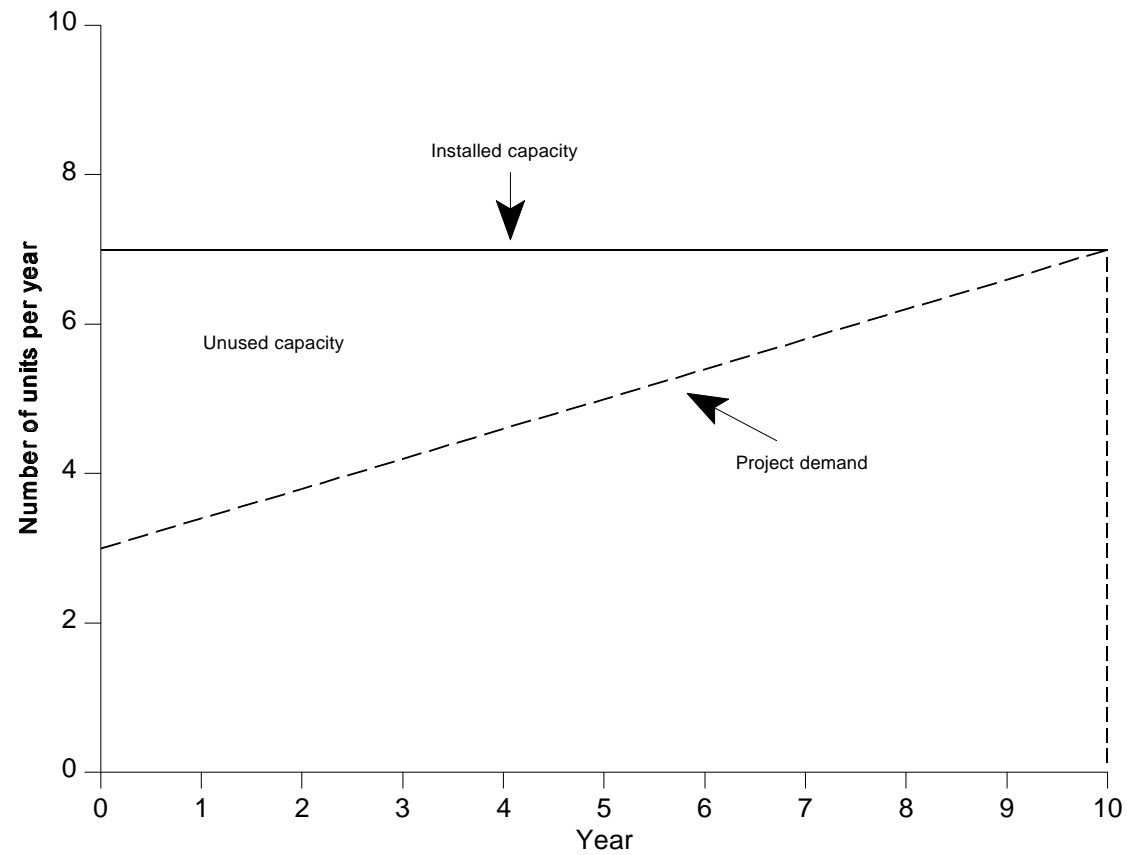
- Conservation and maintenance avoid the need for so much new infrastructure
- Using lagoons rather than capital equipment to treat sewage (where land available)
- Pre-treatment of industrial waste at plant sites to reduce burden on overall wastewater system
- Conversions from soft coal to natural gas, or more efficient coal, for heating systems

**But the objective is not to "minimize" costs**

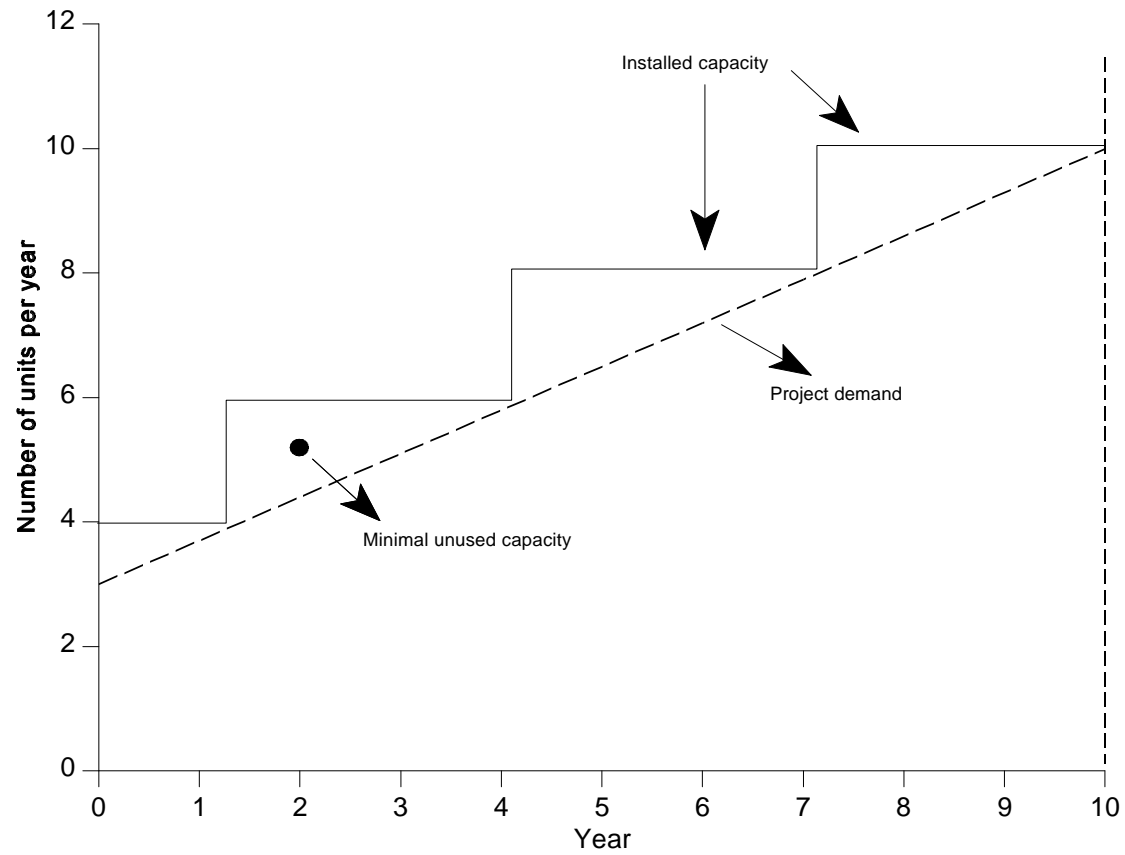
- Cutting back too far may defeat intended purpose



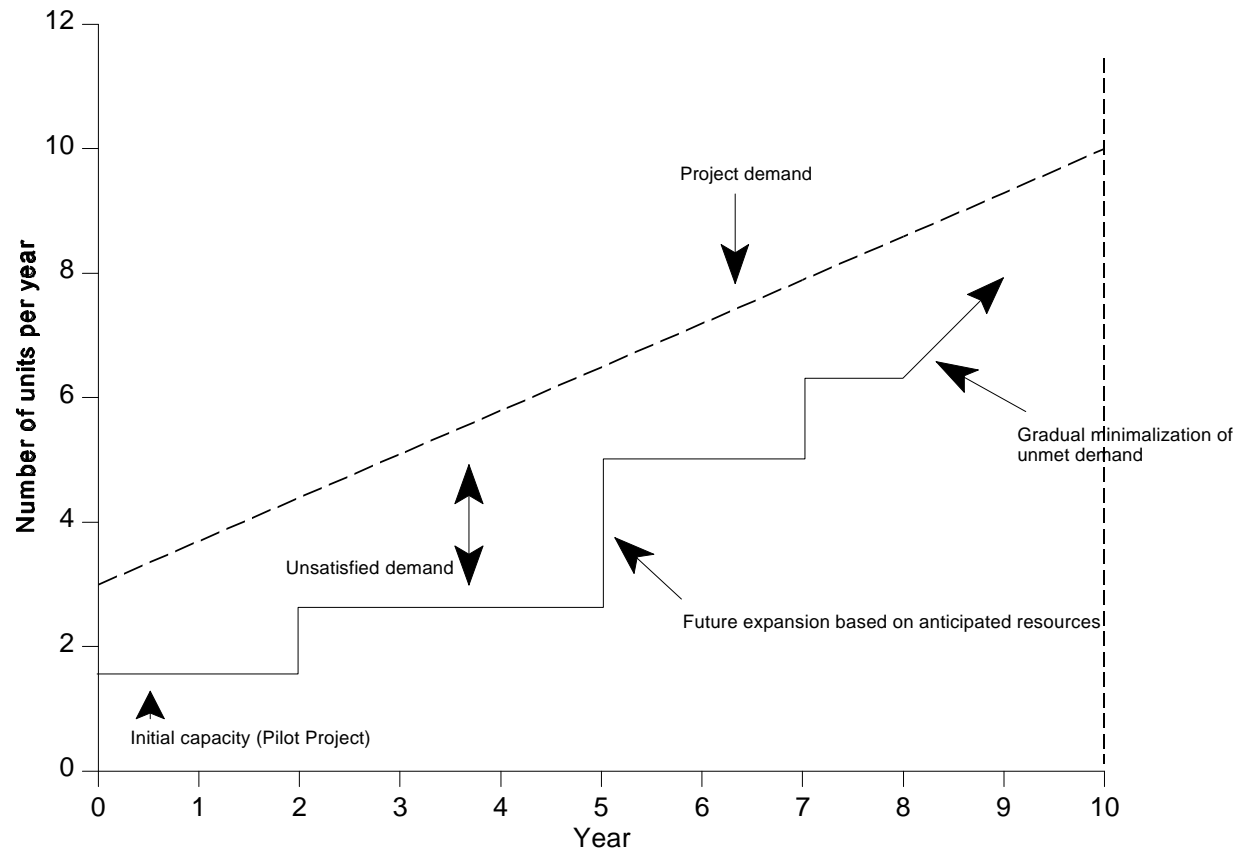
## EXAMPLE OF PROJECT WITH HIGH INITIAL CAPACITY



# EXAMPLE OF PHASED EXPANSION



## EXAMPLE OF REDUCED INITIAL SIZE (PILOT PROJECT) AND FUTURE EXPANSION



### **3. MORE BENEFICIAL ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACTS (ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACT ANALYSIS)**

**Requires some analysis of the *indirect* effects of projects**

**Some projects contribute more to *economic growth* than others**

- Good infrastructure may be essential to attracting new businesses and keeping existing businesses strong.
- Cities are now designing strategies to market municipal owned land for private development - infrastructure to support these may warrant high priority

**Some projects have strong *environmental impacts* (positive and negative) than others**

- For example, providing new water supply to a community may increase pollution downstream
- Seek approaches that both reduce costs and have positive environmental impact (e.g., water conservation, energy metering)

**Some projects have unintended *social impacts***

- Need to analyze which groups benefit from each project - are the results *equitable*

## **4. PROGRAMS THAT THE MUNICIPALITY CAN REALISTICALLY FINANCE THAT EARN AN ACCEPTABLE RATE OF RETURN (FINANCIAL ANALYSIS)**

### **1. Can the Municipality afford the program? (analysis of debt-carrying capacity)**

- Calculate required payments over multi-year period (particularly, annual debt repayment)
- Calculate whether these amounts are affordable
  - forecast municipal revenues
  - forecast municipal expenditures (including repayment of other debts)
  - consider allocation of any accumulated surplus
  - leave substantial margin (to cover risks)

### **2. Does the program earn an acceptable rate of return?**

- Prepare multi-year forecasts over life of investment
  - income derived from the new service provided (e.g., fees paid for water or heat) plus any savings by reducing current expenditures
  - program costs
  - calculate rate of return
- Should be done even for programs not expected to earn a positive return (e.g., wastewater treatment plants)

## **5. PROGRAMS THAT CAN BE IMPLEMENTED LAWFULLY AND EFFECTIVELY (INSTITUTIONAL ANALYSIS)**

### **1. Does the program comply with all existing laws?**

- E.g., building code, environmental requirements

### **2. Have rights and responsibilities been clearly defined in contracts/ agreements among all parties involved?**

- Owner of the facility
- Agency (firm) responsible for construction
- Agency (firm) responsible for ongoing operation and maintenance
- Any other entity involved (e.g., in financing)

*Note the importance of explicit performance monitoring.*

### **3. Do all parties have the *institutional capacity* to perform their roles effectively?**

- Some analysis of financial stability, staffing, and past track record required

### **4. More important, do all parties have *incentives* to perform their roles efficiently?**

- Importance of *competition* - competitive procurement for construction firms and, where possible, operations
- Growing role of private sector in infrastructure - range from "contracting out" some functions to Build-Own-Transfer (BOT) arrangements

## **D. SET PRIORITIES TO FIT REAL FINANCING POSSIBILITIES**

**Even with careful planning, the number of projects you want likely to be larger than number you can afford**

### **Ideally, would rank projects by *cost-benefit ratios***

- Requires placing monetary value on stream of benefits as well as costs over multi-year period
- *Problems: analysis is time-consuming, very difficult to quantify benefits, ratios likely to be questioned*

### **Normally, must use simpler ranking schemes**

- First, check to see that all projects are compatible with each other
- Ranking cannot be based on facts alone - requires judgement based on values and priorities of citizens (*this is why public participation important*)
- Projects to avert imminent health and safety hazards usually given highest priority
- Beyond that, can set up a matrix
  - Score each project on its contribution to each of a series of community goals (e.g., environmental improvement, economic development, social equity)
  - Create combined scores across goals
- All of this much easier if program strategies developed beforehand - so can see how well each project fits into the strategy

## **E. RELY MORE ON CREDIT FINANCING**

### **Government funds never enough to finance local infrastructure**

- Particularly difficult to fund enormous sums for construction as costs are incurred
- Benefit of spreading payments - as in loans - over a longer period, closer to the life of the investment

### **Lending for infrastructure can be a sound investment for the private sector**

- In Western Europe and U.S., almost all local infrastructure financed by private investors

### **But before they invest, private lenders want assurances that risks will be low**

- Importance of municipalities building a track record of reliable debt repayment
- Need for effective collateral and project designs that are financially as well as technically feasible

### **These are the principles around which MUFIS is based**

- Lenders will require good information on project feasibility - as provided by the analyses noted above



## **ROLE OF DEBT IN STABLE CAPITAL FINANCING**

- 1. Local capital expenditures are now being financed largely from unexpected excess receipts from the individual income tax and from property sales.**
- 2. These are temporary sources of income. As the financing system stabilizes, municipalities will not be able to count on these "windfalls."**
- 3. Debt needs to be an important part of a stable, long term capital financing system. Unless there is replacement for pay-as-you-go financing, capital expenditures are likely to decline significantly.**
- 4. The Czech Republic has started to move toward greater use of borrowing for local capital finance.**

<b>Item</b>	<b>1993</b>	<b>1994 (six months)</b>
Local Capital Expenditures	31.1 billion	13.6 billion
Sources of Financing:		
Targeted State Subsidies	7.2	1.8
Borrowing	2.1	2.6
Own Revenues:	21.8	9.2
Property Sales	5.9	2.4
Other	15.9	6.8

## **REQUIREMENTS FOR A PRUDENT SYSTEM OF BORROWING FOR CAPITAL FINANCE**

- 1. Longer term lending.** Until 1994, five years was normal maximum loan term.
- 2. Mix of loans and bonds.** To appeal to different segments of capital market.
- 3. Support for private sector as lenders.** Resist creation of parastatal local lending authority.
- 4. Strengthen competition in municipal lending.** Savings Bank last year had upwards of 80% of municipal credits.
- 5. Discourage excessive borrowing by municipalities.** In 1993, 19 municipalities borrowed more than 50% of total cash inflow - i.e., borrowing was larger than annual revenues.

## **USAID-SUPPORTED MUNICIPAL LENDING SYSTEM**

- 1. Establishes an intermediary institution (MUFIS), which on-lends through commercial banks to municipalities. Commercial banks accept all credit risk; do all credit analysis (private sector as lender).**
- 2. Uses the USAID Housing Guaranty Loan as source of MUFIS capital. This is a long term loan and permits long term on-lending (7-15 years for municipal loans).**
- 3. Open to all banks that meet capital standards, have eligible projects, and are willing to accept credit risk. Nine banks accepted by MUFIS for participation. (Supports competition in municipal lending.)**
- 4. Not intended to displace or undercut other types of bank lending to municipalities. No interest-rate subsidies. System designed to accommodate other international lenders. (Supports market-based competition.)**
- 5. Initially supports bank loans to municipalities. In second year, likely to be modified to also support municipal bond issues underwritten by banks. This is foreseen in Implementation Agreement. (Supports different debt instruments.)**

Lay in original figure in Czech

## **CZECH MUNICIPAL CREDIT SYSTEM IS ACTIVELY EVOLVING**

**For the most part, evolution is market-oriented and prudent.**

**1. Relatively little subsidizing of interest rates. Environmental Fund is exception - appropriately so if used to fund projects with large externalities. (Compare Poland, Hungary.)**

**2. Bank loans to municipalities have increased:**

1992:	Kc. 758 million
1993:	2,176 million
1st half 1994:	2,291 million

**3. Term of loans has increased. Interest rate has declined. Competition between Česká Spořitelna and Komerční Banka has driven down bank margins for municipal lending.**

**4. Eleven municipal bonds have been issued. Interest rate on bonds is falling (from initial 18% to most recent 12%). Four bonds traded in secondary market on stock exchange.**

**5. No delinquent payments to date.**

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**6. But still relatively little understanding of debt in many municipalities; exaggeration of municipal capacity for repayment; desire to emulate Prague and go to international market.**

**7. Except for Česká Spořitelna and Komerční Banka, banks have little experience assessing creditworthiness. Whole system still relies heavily on municipal property as collateral.**